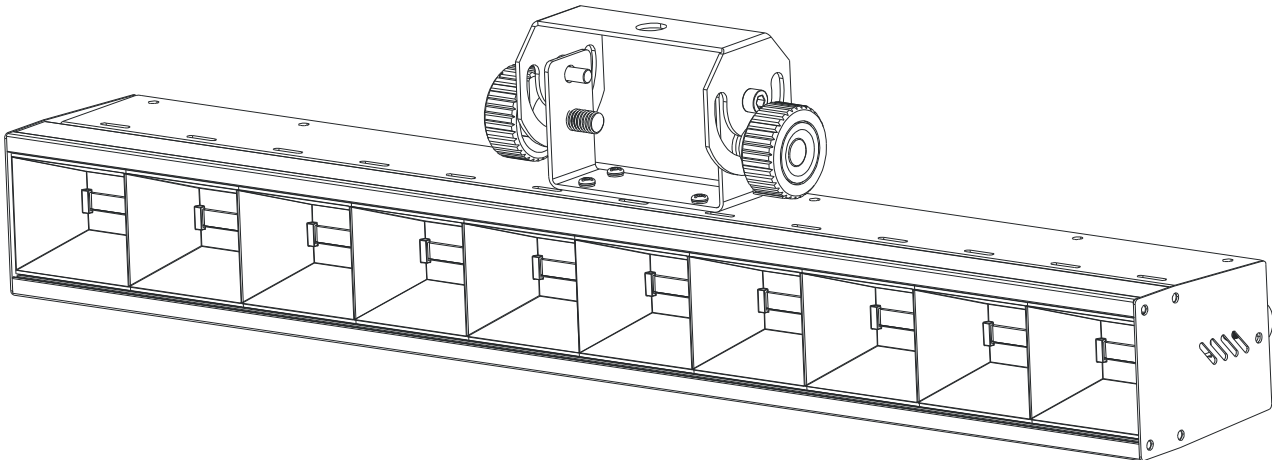
# FOCUS®

# LED-ST 100



## USER MANUAL

Please read the instruction carefully before use

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## 1. Safety Instructions

**WARNING**

Please read carefully the instruction, which includes important information about the installation, usage and maintenance.

- Please keep this User Guide for future consultation. If you sell the unit to another user, be sure that they also receive this instruction booklet.
- Unpack and check carefully there is no transportation damage before using the unit.
- Before operating, ensure that the voltage and frequency of power supply match the power requirements of the unit.
- It's important to ground the yellow/green conductor to earth in order to avoid electric shock.
- The unit is for indoor use only. Use only in a dry location.
- The unit must be installed in a location with adequate ventilation, at least 50cm from adjacent surfaces. Be sure that no ventilation slots are blocked.
- Disconnect main power before replacement or servicing.
- Make sure there are no flammable materials close to the unit while operating as it is fire hazard.
- Use safety cable when fixes this unit. DO NOT handle the unit by taking its head only, but always by taking its base.
- Maximum ambient temperature is Ta: 40℃. DO NOT operate it where the temperature is higher than this.
- Unit surface temperature may reach up to 85℃. DO NOT touch the housing bare-hand during its operation. Turn off the power and allow about 15 minutes for the unit to cool down before replacing or serving.
- In the event of serious operating problem, stop using the unit immediately. Never try to repair the unit by yourself. Repairs carried out by unskilled people can lead to damage or malfunction. Please contact the nearest authorized technical assistance center. Always use the same type spare parts.
- DO NOT touch any wire during operation as high voltage might be causing electric shock.

## Warning:

- To prevent or reduce the risk of electrical shock or fire, do not expose the unit to rain or moisture.
- DO NOT open the unit within five minutes after switching off.
- The housing, the lenses, or the ultraviolet filter must be replaced if they are visibly damaged.

## Caution:

There are no user serviceable parts inside the unit. DO NOT open the housing or attempt any repairs yourself. In the unlikely event your unit may require service, please contact your nearest dealer.

## Installation:

The unit should be mounted via its screw holes on the bracket. Always ensure that the unit is firmly fixed to avoid vibration and slipping while operating. And make sure that the structure to which you are attaching the unit is secure and is able to support a weight of 10 times of the unit's weight. Also always use a safety cable that can hold 12 times of the weight of the unit when installing the fixture.

The equipment must be fixed by professionals. And it must be fixed at a place where is out of the touch of people and has no one pass by or under it, the range of mounting height is 0~30 M.

For 230V 50Hz power supply, maximum fixtures that can be connected on one power cable is 10;
For 120V 60Hz power supply, maximum fixtures that can be connected on one power cable is 6;

## 2. Technical Specifications

4 DMX Channel Modes: 1/2/10/12 Channels

3 operation modes: DMX512, Master/Slave and Sound Active.

Variable strobe speed and intensity can be adjustable by knobs.

Great built-in lighting shows under Master/Slave mode triggered by music.

Optional CA-8 for instant lighting shows.

Smooth 0~100% dimming and variable strobe speeds.

Ideal for pubs, clubs, bars, Mobile DJs and more.

◇ **Power Voltage:** AC 100V~240V, 50/60Hz

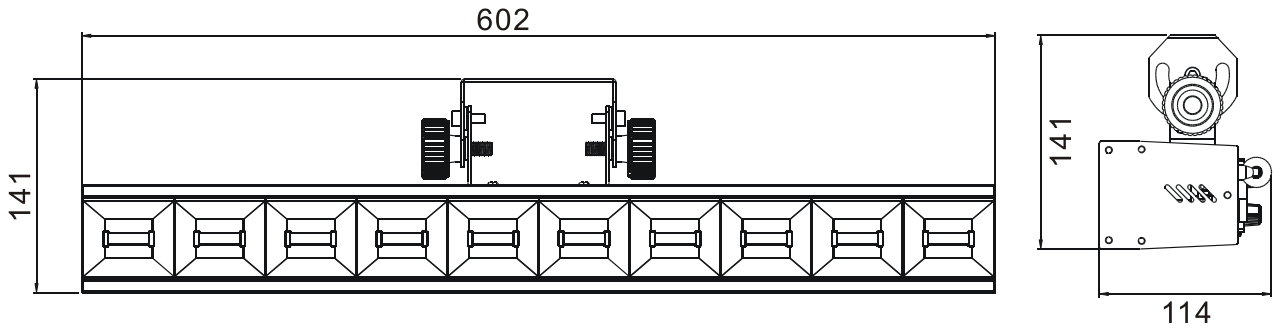
◇ **Power Consumption:** 60W

◇ **LED Sources:** 10pcs×5W White LEDs

◇ **Fuse:** T 2A

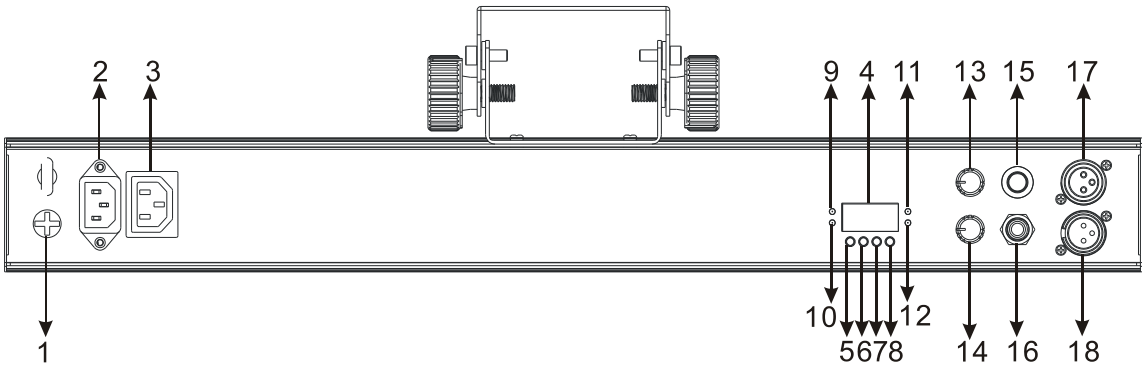
◇ **Weight:** 2.8Kgs

◇ **Dimension:** 602 × 114 × 141mm



## 3. How To Set The Unit

### 3.1 Control panel




**1. FUSE**（T 2A）**:** Protect the unit from the damage of the over current.

**2. POWER IN:** Connect to power supply.

**3. POWER OUT:** Connect to supply power for the next unit.

**4. DISPLAY:** Show the various menus and the selected functions.

**BUTTON:**

| | |
|---|---|
| **5. MENU** | To select the programming functions |
| **6. ▼ DOWN** | To go backward in the selected functions |
| **7. ▲ UP** | To go forward in the selected functions |
| **8. ENTER** | To confirm the selected functions |

**LED:**

| | | |
|---|---|---|
| **9. DMX** | On | DMX input present |
| **10. MASTER** | On | Master Mode |
| **11. SLAVE** | On | Slave Mode |
| **12. SOUND** | Flashing | Sound activation |

**13. SPEED:** Manually adjust strobe value.

**14. DIMMER:** Manually adjust dimmer value.

**15. MICROPHONE:** Receive music for the sound active.

**16. ONLY FOR REMOTE CONTROL:** Connecting with CA-8 to control the unit for Stand by, Function and Mode function.

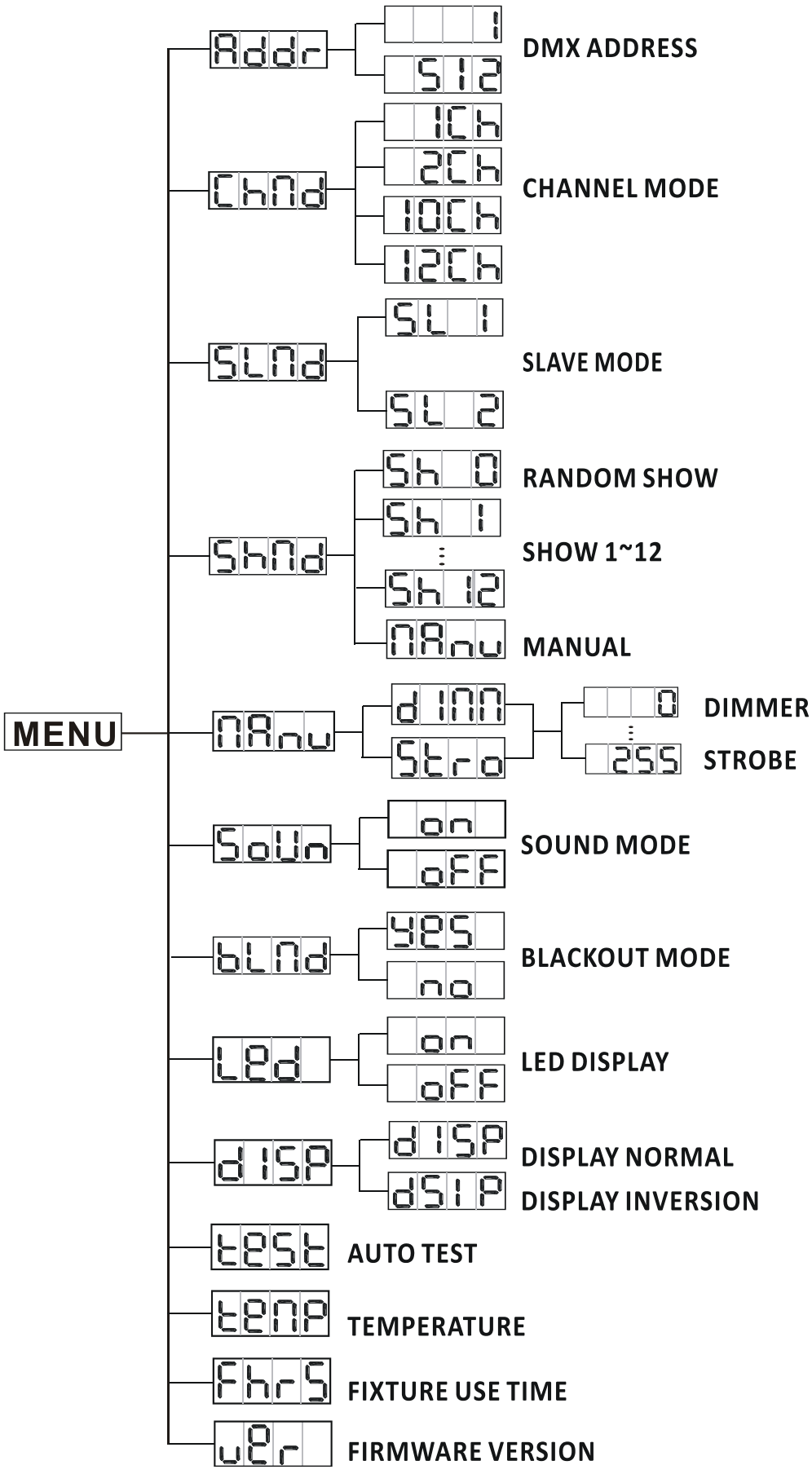
**17. DMX INPUT:** For DMX512 link, use 3-pin XLR cable to link the unit together.

**18. DMX OUTPUT:** For DMX512 link, use 3-pin XLR plug cable to link the next unit.

## 3.2 Main Function

To select any of the given functions, press the **MENU** button up to when the required one is showing on the display. Select the function by **ENTER** button and the display will blink. Use **DOWN** and **UP** button to change the mode. Once the required mode has been selected, press the **ENTER** button to confirm, to go back to the main function without any change press the **MENU** button again. Hold and press the **MENU** button about one second or wait for 7 seconds to exit the current mode.

The main functions are showing below:


MENU
Addr
1
512
DMX ADDRESS
ChNd
1Ch
2Ch
10Ch
12Ch
CHANNEL MODE
SLNd
SL 1
SL 2
SLAVE MODE
ShNd
Sh 0
RANDOM SHOW
Sh 1
Sh 12
SHOW 1~12
MANU
MANUAL
MANu
dIMM
Stro
0
255
DIMMER
STROBE
SoUn
on
oFF
SOUND MODE
bLNd
yES
no
BLACKOUT MODE
Led
on
oFF
LED DISPLAY
diSP
diSP
dSIP
DISPLAY NORMAL
DISPLAY INVERSION
tESt
AUTO TEST
tEMP
TEMPERATURE
FHrS
FIXTURE USE TIME
vEr
FIRMWARE VERSION

**DMX 512 ADDRESS**

To select the , press the **ENTER** button to show the **DMX ADDRESS** on the display. Use the **DOWN**/**UP** button to adjust the address from **1** to **512**. Once the address has been selected, press the **ENTER** button to setup, to go back to the functions without any changes press the **MENU** button again. Hold and press the **MENU** button for one second or wait for one minute to exit the menu mode.

**CHANNEL MODE**

To select the , press the **ENTER** button to show the **CHANNEL MODE** on the display. Use the **DOWN**/**UP** button to select the **1**, **2**, **10**, **12** channel modes. Once the mode has been selected, press the **ENTER** button to setup, to go back to the functions without any changes press the **MENU** button again. Hold and press the **MENU** button for one second or wait for one minute to exit the menu mode.

**SLAVE MODE**

To select the , press the **ENTER** button to show the **SLAVE MODE** on the display. Use the **DOWN**/**UP** button to select the (**SLAVE 1)**, (**SLAVE 2)** modes. Once the mode has been selected, press the **ENTER** button to setup, to go back to the functions without any changes press the **MENU** button again. Hold and press the **MENU** button for one second or wait for one minute to exit the menu mode.

**SHOW MODE**

To select the , press the **ENTER** button to show the **SHOW MODE** on the display. Use the **DOWN**/**UP** button to select the (Random show),  (Show 1) or … or  (Show 12) mode and (Manual show). Once the mode has been selected, press the **ENTER** button to setup, to go back to the functions without any changes press the **MENU** button again. Hold and press the **MENU** button for one second or wait for one minute to exit the menu mode.

**MANUAL MODE**

To select the , press the **ENTER** button to show the **MANUAL MODE** on the display. Use the **DOWN**/**UP** button to select the (Dimmer) or (Strobe). Once the mode has been selected, press the **ENTER** button, and use the **DOWN** and **UP** button to adjust the value (0-255). Once selected, press the **ENTER** button to setup, to go back to the functions without any changes press the **MENU** button again. Hold and press the **MENU** button for one second or wait for one minute to exit the menu mode.

**SOUND MODE**

To select the , press the **ENTER** button to show the **SOUND MODE** on the display. Use the **DOWN**/**UP** button to select the (sound on) or (sound off) mode. Once the mode has been selected, press the **ENTER** button to setup, to go back to the functions without any changes press the **MENU** button again. Hold and press the **MENU** button for one second or wait for one minute to exit the menu mode.

**BLACKOUT MODE**

To select the , press the **ENTER** button to show the **BALCKOUT MODE** on the display. Use the **DOWN**/**UP** button to select the (blackout) or (normal) mode. Once the mode has been selected, press the **ENTER** button to setup, to go back to the functions without any changes press the **MENU** button again. Hold and press the **MENU** button for one second or wait for one minute to exit the menu mode.

**LED DISPLAY**

To select the , press the **ENTER** button to show the **LED DISPLAY** on the display. Use the **DOWN**/**UP** button to select the (LED on) or (LED off) mode. Once the mode has been selected, press the **ENTER** button to setup, to go back to the functions without any changes press the **MENU** button again. Hold and press the **MENU** button for one second or wait for one minute to exit the menu mode.

**DISPLAY INVERSE**

To select the , press the **ENTER** button to show the **DISPLAY** on the display. Use the **DOWN/UP** button to select the (normal) or (inversion), press **ENTER** button to setup. Back to the functions without any change press **MENU** button.

**AUTO TEST**

To select the , press the **ENTER** button to show the **TEST** on the display and the unit will run a self-test . To go back to the functions without any changes press the **MENU** button again. Hold and press the **MENU** button for one second or wait for one minute to exit the menu mode.

**TEMP.**

To select the , press the **ENTER** button to show the **TEMP.** on the display and the display will show the temperature of the unit . To go back to the functions without any changes press the **MENU** button again. Hold and press the **MENU** button for one second or wait for one minute to exit the menu mode.

**FIXTURE HOURS**

To select the , press the **ENTER** button to show the **FIXTURE HOURS** on the display and the display will show the number of working hours of the unit . To go back to the functions without any changes press the **MENU** button again. Hold and press the **MENU** button for one second or wait for one minute to exit the menu mode.

**SOFTWARE VERSION**

To select the , press the **ENTER** button to show the **SOFTWARE VERSION** on the display and the display will show the version of software of the unit . To go back to the functions without any changes press the **MENU** button again. Hold and press the **MENU** button for one second or wait for one minute to exit the menu mode.

## 4. How To Control The Unit

You can operate the unit in three ways:

1. Master/slave built-in preprogram function
2. Easy controller
3. Universal DMX controller

No need to turn the unit off when you change the DMX address, as new DMX address setting will be effect at once. Every time you turn the unit on, it will show LEd on the display and move all the motors to their 'home' position and you may hear some noises for about 20 seconds. After that the unit will be ready to receive DMX signal or run the built in programs.

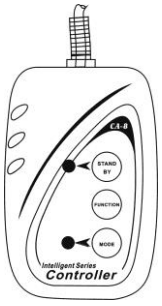
### 4.1 Master/Slave Built In Preprogrammed Function

By linking the units in master/slave connection, the first unit will control the other units to give an automatic, sound activated, synchronized light show. This function is good when you want an instant show. You have to set the first unit in master mode and select Sh 0 (random show) or Sh 1 (show 1) or… or Sh 12 (show 12) mode. Its DMX input jack will have nothing plugged into it, and Its master LED will be constantly on and sound LED will flash to the music. The other units will have to set in slave mode SLAd and select SL 1 (normal) or SL 2 (2-light show) mode, Their DMX cables plugged into the DMX input jacks (daisy chain) and the slave led lights will constantly on.

#### 2-light show

In SLAd (slave mode), SL 1 means the unit works normally and SL 2 means 15-light show. In order to create a great light show, you can set SL 2 on the fifteenth unit to get contrast movement to each other, even if you have two units only.

### 4.2 Easy Controller




The easy remote control is used only in master/slave mode. By connecting to the 1⁄4" microphone jack of the first unit, you will find that the remote control on the

first unit will control all the other units for Stand by, Function and Mode selection.

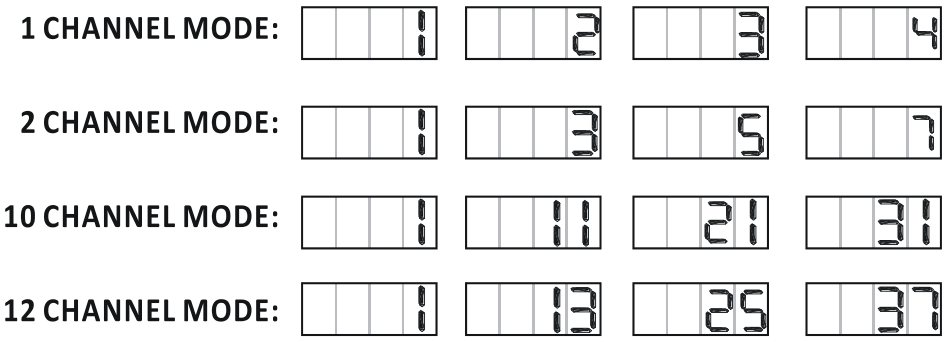
| | | |
|---|---|---|
| **Blackout** | Blackout the unit | |
| **Function** | Synchronous Strobe by auto<br>Synchronous Strobe by sound<br>(press and hold the button) | Select Show 1 – 12<br>Manual mode |
| **Mode** | Sound<br>(LED OFF) | Show<br>(LED ON) |

## 4.3 DMX Controller

By using a universal DMX controller to control the units, you have to set DMX address from 1 to 512 channel so that the units can receive DMX signal.

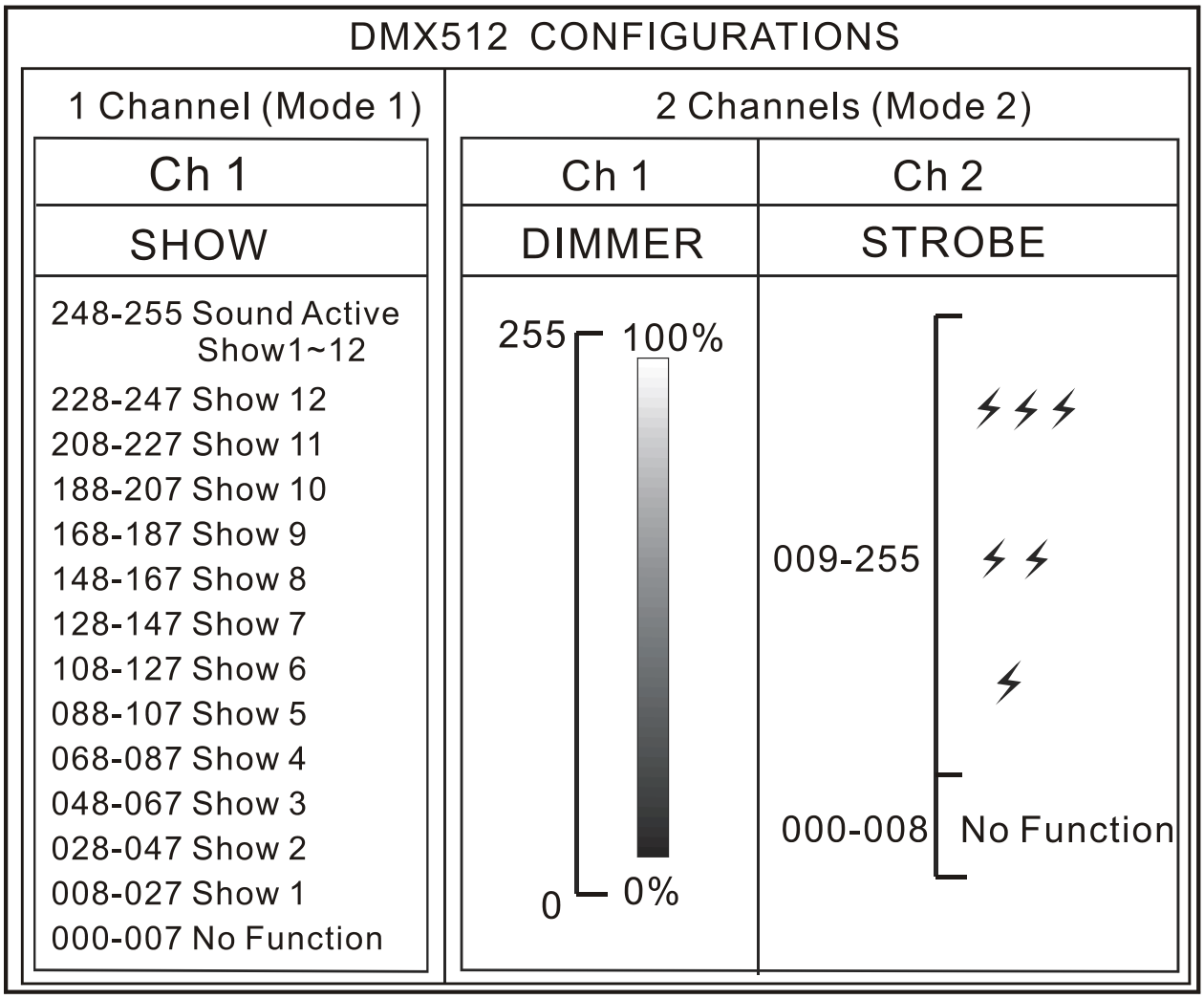
Press the **MENU** button up to when the Addr is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to change the DMX512 address. Once the address has been selected, press and keep **ENTER** button pressed up to when the display stops blinking or storing automatically 8 seconds later. To go back to the functions without any change press the **MENU** button again.

Please refer to the following diagram to address your DMX512 channel for the first 4 units：

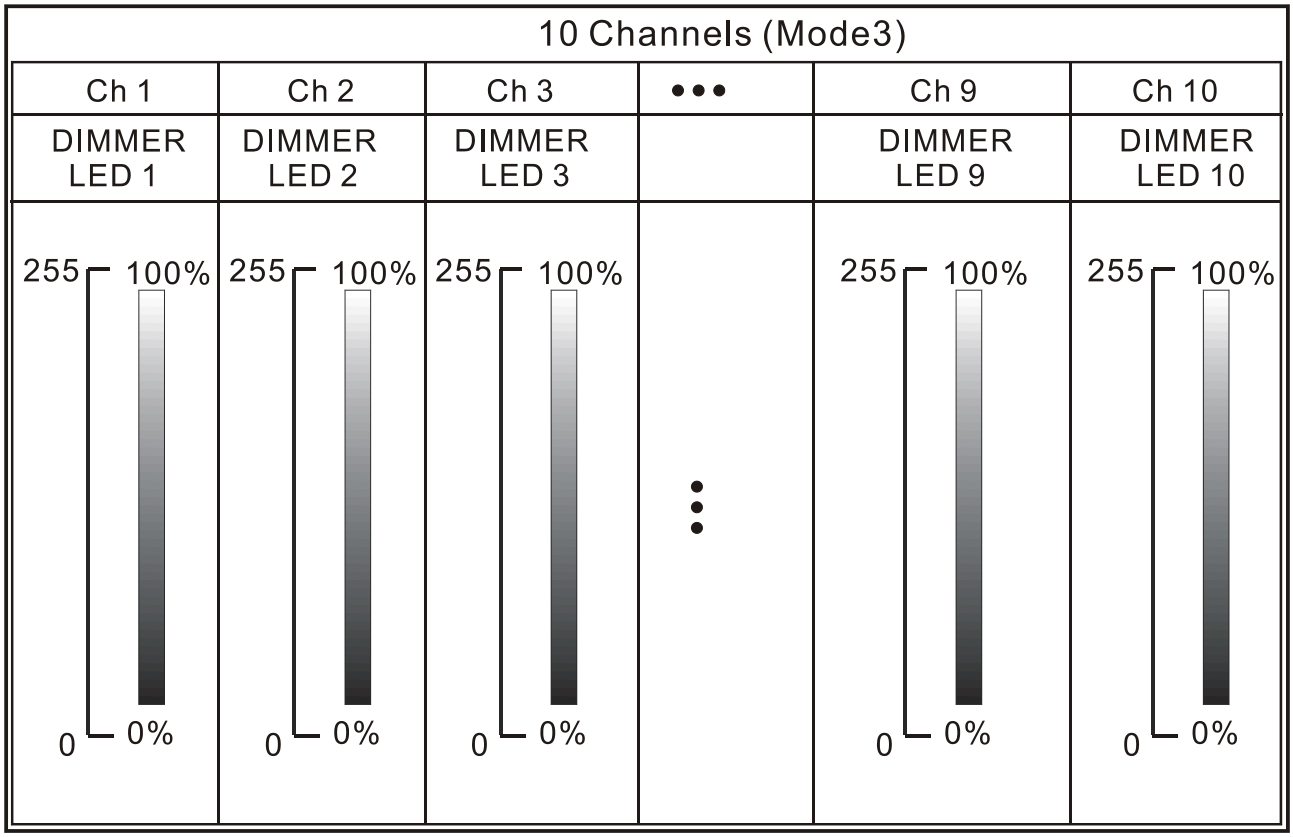


## 5. DMX 512 Configuration

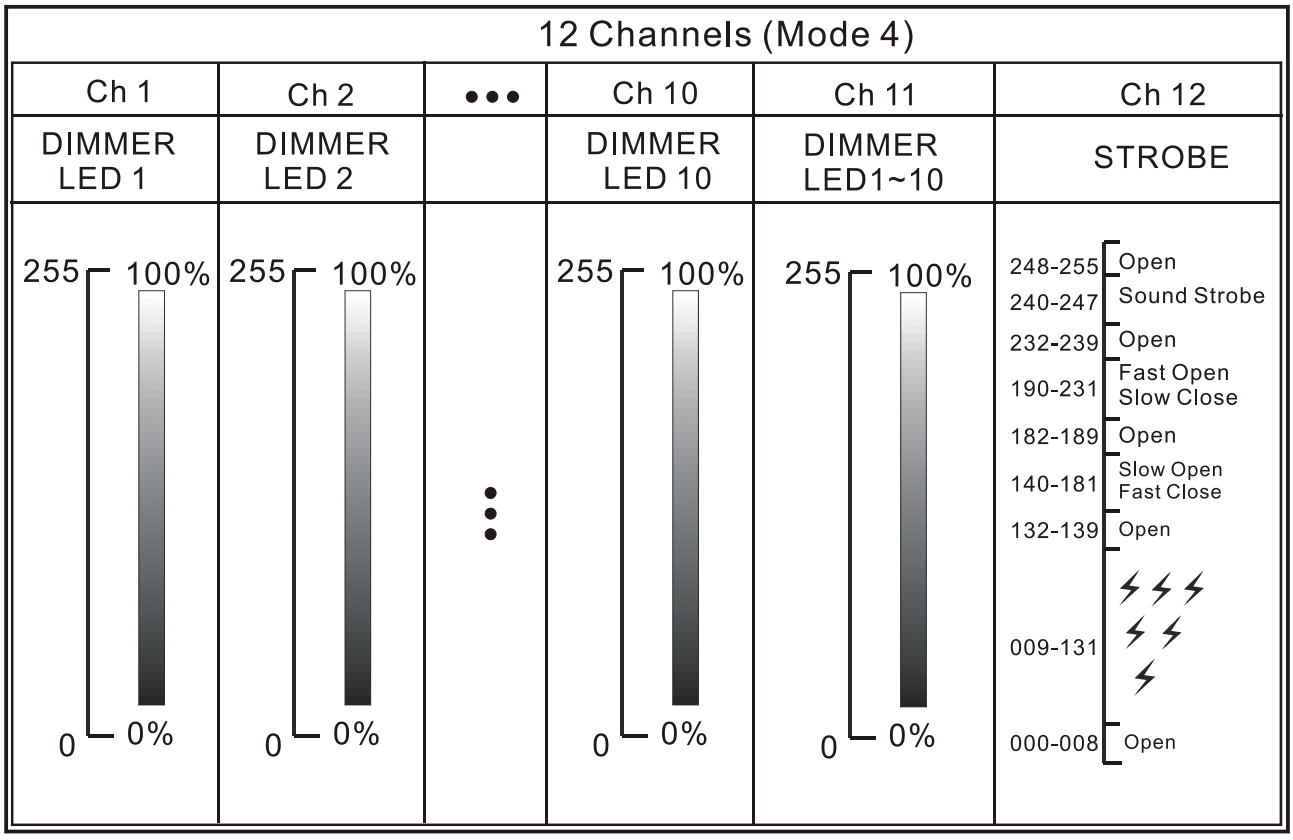
**1⁄2 Channels Mode:**



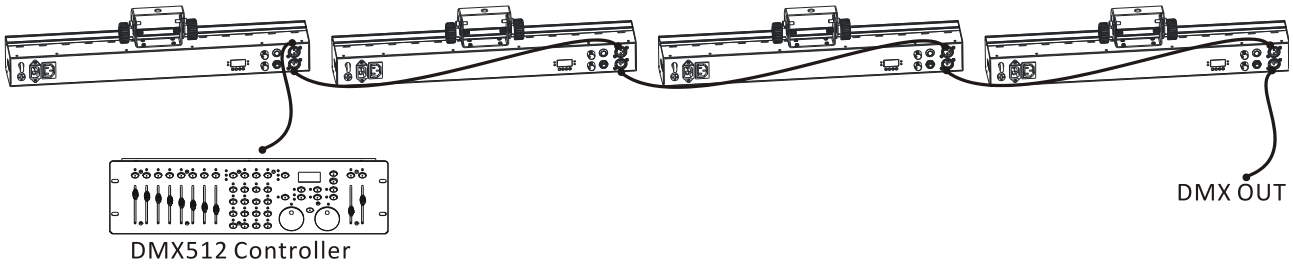
**10 Channels Mode:**

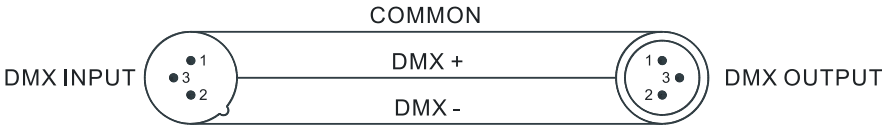



**12 Channels Mode:**



## 6. DMX512 Connection




Termination reduces signal errors and to avoid signal transmission problems and interference. It is always advisable to connect a DMX terminal.
(Resistance 120 ohm 1/4W)between pin2(DMX-)and pin3(DMX+) of the last fixture.

1. If you using a controller with 5 pins DMX output, you need to use a 5 to 3 pin adapter-cable.
2. At last unit, the DMX cable has to be terminated with a terminator. Solder a 120 ohm 1⁄4W resistor between pin 2(DMX-) and pin 3(DMX+) into a 3-pin XLR-plug and plug it in the DMX-output of the last unit.
3. Connect the unit together in a `daisy chain` by XLR plug from the output of the unit to the input of the next unit. The cable can not branched or split to a `Y` cable. DMX 512 is a very high-speed signal. Inadequate or damaged cables, soldered joints or corroded connectors can easily distort the signal and shut down the system.
4. The DMX output and input connectors are pass-through to maintain the DMX circuit, when one of the units' power is disconnected.
5. Each lighting unit needs to have an address set to receive the data sent by the controller. The address number is between 0-511 (usually 0 & 1 are equal to 1).
6. The end of the DMX 512 system should be terminated to reduce signal errors.
7. 3 pin XLR connectors are more popular than 5 pin XLR.

   3 pin XLR: Pin 1: GND, Pin 2: Negative signal (-), Pin 3: Positive signal (+)

   5 pin XLR: Pin 1: GND, Pin 2: Negative signal (-), Pin 3: Positive signal (+), Pin 4⁄Pin 5: Not used.

## 7. Troubleshooting

Following are a few common problems that may occur during operation. Here are some suggestions for easy troubleshooting:

**A. The unit does not work, no light and the fan does not work**

1. Check the connection of power and main fuse.
2. Measure the mains voltage on the main connector.
3. Check the power on LED.

**B. Not responding to DMX controller**

1. DMX LED should be on. If not, check DMX connectors, cables to see if link properly.
2. If the DMX LED is on and no response to the channel, check the address settings and DMX polarity.
3. If you have intermittent DMX signal problems, check the pins on connectors or on PCB of the unit or the previous one.
4. Try to use another DMX controller.
5. Check if the DMX cables run near or run alongside to high voltage cables that may cause damage or interference to DMX interface circuit.

**C. Some units don’t respond to the easy controller**

1. You may have a break in the DMX cabling. Check the LED for the response of the master/ slave mode signal.
2. Wrong DMX address in the unit. Set the proper address.

**D. No response to the sound**

1. Make sure the unit does not receive DMX signal.
2. Check microphone to see if it is good by tapping the microphone

**E. One of the channels is not working well**

1. The stepper motor might be damaged or the cable connected to the PCB is broken.
2. The motor’s drive IC on the PCB might be out of condition

## 8. Fixture Cleaning

The cleaning of optical lenses or mirrors must be carried out periodically to optimize light output. Cleaning frequency depends on the environment in which the fixture operates: damp, smoky or particularly dirty surrounding can cause greater accumulation of dirt on the unit's optics.

- Clean with soft cloth using normal glass cleaning fluid.
- Always dry the parts carefully.
- Clean the external optics at least every 20 days. Clean the internal optics at least every 30⁄60 days.

## Declaration of Conformity

We declare that our products (lighting equipments) comply with the following specification and bears CE mark in accordance with the provision of the Electromagnetic Compatibility (EMC) Directive 89/336/EEC.

EN55103-1: 2009 ; EN55103-2: 2009; EN62471: 2008;
EN61000-3-2: 2006 + A1:2009 + A2:2009; EN61000-3-3: 2008.

**&**

## Harmonized Standard

EN 60598-1:2008 + All:2009; EN 60598-2-17:1989 + A2:1991; EN 62471:2008;
EN 62493: 2010
Safety of household and similar electrical appliances
Part 1: General requirements

# Innovation, Quality, Performance